REMARKS

Applicants acknowledge the Office Action of 20 APR. 2010 and request reconsideration of the claims, as amended.

Responsive to Page 2 of the Action, claims 22, 28 and 34 have been amended to correct informalities. Claim 2 has been cancelled. Due to amendment of claim 1, claim 23 no longer constitutes a duplicate recitation of matter already recited in claim 1.

SECTION 103 REJECTION

Pages 5-7 of the Action reject claims 1, 12, and 23-27 over a proposed combination of HSIEH with FUJINAKA.

HSIEH (USP 6,318,976) discloses a fan, whose shaft 126 is held in place using a locking disk 19 (col. 2, last line). The locking disk 19 is clamped in place by sleeve 18 and associated elements (col. 3, lines 20-25). If one made the HSIEH shaft very thin, it would become deformed during the process of inserting it into locking disk 19, rendering the mini-fan worthless. Therefore, HSIEH fails to suggest a suitable structure for a mini-fan; rather, it **teaches away from** the structure of the present invention.

FUJINAKA (US-PUB. 2003-113 045) discloses various bearing arrangements for small fans.

In the version according to FIGS. 1-5, a cap 9 (FIG 4) is secured in a bearing tube 2 (FIG. 3). The securing operation is accomplished using ultrasonic welding, press-fitting or analogous methods [Par. 0042]. Paragraph 37 comments that it is "practically impossible to realize the complete solid contact" necessary to prevent leakage.

In the second version according to FIGS. 6-7, a cap 20 is secured by welding.

In the third version according to FIGS. 8-9, a plate 25 is press-fitted and sealed along its rim using adhesive 27 (Paragraph 54).

The fourth version according to FIGS. 10-11 uses a cap 28 composed of porous sintered alloy, which is <u>not sealed</u> on the outside.

In all the FUJINAKA embodiments, the shaft 4 is secured using a press-fitted metallic stopper 6, and an oil shield washer 5 must be provided. This makes the assembly process **complicated & costly:**

1. First, secure the washer 5 onto the shaft 4.
2. Then, press in bearing 3.
3. Subsequently, insert the shaft 4 into bearing 3.
4. Onto shaft 4, press-fit metallic stopper 5 as an axial stop.
5. Finally, mount cap/cover 9, secure it, e.g. by bending over rim 18, and possibly also by welding.

The quality of sealing is thus **not assured**, and the FUJINAKA method of assembly is too complicated and expensive to be commercially viable, especially for mini-fans, which customers expect to be inexpensive. No customer is prepared to over-pay for such a small device.

When an oil seal is missing or ineffective, the available oil goes quickly to zero, and the fan *becomes inoperable and must be replaced*. Thus, contrary to Paragraph 24 of the Action, FUJINAKA fails to teach or suggest the features of the present invention and, since FUJINAKA does not supply the features missing from HSIEH, the proposed combination of HSIEH with a sintered bearing from FUJINAKA would not be a mini-fan structure which retains oil for long enough to maintain proper operability.

By contrast, the structure of the present invention is surprisingly simple, and well-adapted to the problems involved in making mini-fans:

1. Latching cover 62 is mounted, welded in place, and subsequently filled with lubricant.
2. Shaft 34 is inserted, until hooks 60 snap into groove 58. These parts, for practical purposes, just serve as protection during transport.

Then, the mini-fan assembly is complete.

FURTHER SECTION 103 REJECTIONS

Paragraphs 31-95 of the Action make further section 103 rejections, based upon adding 1-4 additional references to the previously discussed attempted combination of HSIEH with FUJINAKA. However, the additional JOACHIMI, OOTSUKA, HORNG, SCHAFROTH, ALEX, CHUANG, and GRUBER references in most cases disclose only single additional features, and the asserted motivations to attempt their combination with the HSIEH and/or FUJINAKA structures are strained or implausible, even assuming (arguendo) that the attempted combinations would represent operable devices. The references could only have been located by hindsight reasoning, after having the benefit of reading the present disclosure. Reconsideration, in light of the amendments to main claim 1, is solicited.

CONCLUSION

Claim 1, and its dependent claims, are now clear and patentably distinguish over HSIEH, FUJINAKA, and the other art of record, taken singly or in combination. If the Examiner notes any remaining informalities, or wishes to make any suggestions to place the application in condition for allowance, a telephone call to Applicant's counsel is invited.

Respectfully submitted,

/Milton Oliver/

Milton Oliver, Atty for Applicants
OLIVER INTELLECTUAL PROPERTY LLC
CUST. # 83409
TEL: 781-910-9664 or 774-521-3058
FAX: 774-521-3062

EMAIL: MILTONOLIVER@IEEE.org